10/583.714 FUKUDA ET AL. Examiner-Initiated Interview Summary Art Unit Examiner **ALEXANDER KOLLIAS** 1725 All participants (applicant, applicant's representative, PTO personnel): (1) ALEXANDER KOLLIAS. (3)_____ (4)_____ (2) James Armstrong. Date of Interview: 05 October 2011. Tvpe: ☐ Personal [copy given to: ☐ applicant applicant's representative If Yes, brief description: _____. Issues Discussed □101 □112 □102 ☑103 ☑Others (For each of the checked box(es) above, please describe below the issue and detailed description of the discussion) Claim(s) discussed: _____. Identification of prior art discussed: _____. Substance of Interview (For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...) see continuation sheet. Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview. Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised. ☐ Attachment /Alexander C Kollias/ /Basia Ridley/ Examiner, Art Unit 1725 Supervisory Patent Examiner, Art Unit 1725

Application No.

Applicant(s)

Application No. 10583714

The Examiner proposed the following amendment in order to place the claims in condition for allowance:

With respect to claim 1 - Amend to over come issue under 35 U.S.C. 112 second paragraph, i.e. claim 1 to clearly recite the types or polymers which are utilized as binder in the ink composition.

Include a new claim which excludes water from the ink composition and change the dependency of the claim reciting the anhydride to depend from this new claim. With respect to claim 2 – amend the claim to recite that the ink composition contains no water in combination with the recite anhydride

With respect to claim claim 15 - Amend the claim to recite the quantity of carboxyl, phosphoric, sulfonic acid groups in the resin binders, i.e. from 50 to 500 mmol/kg.

Cancel claims 23, 25, 28 and 30-31.

In light of the proposed changes, the Examiner proposed cancelling the remaining claims and bring in new claims which reflect the changed discussed above. Further, the Examiner proposed rejoining the withdrawn claims drawn to a laminated sheet comprising the ink composition.

The final version of claims proposed by the Examiner are new claims 33-47 which recited subject matter drawn to the ink composition and new claims 48-56 which are drawn to the laminated sheet. Thus, the final version of the claims is:

AMENDMENTS TO THE CLAIMS

1-32 - cancelled

- 33 (new) An ink comprising: metal thin film fragments having an average thickness of 0.01 to 0.1 gm and an average particle diameter of 5 to 25 \square m; and a binder resin having 50 to 500 mmol/kg of at least one selected from the group consisting of a carboxyl group, a phosphoric acid group, a sulfonic acid group and metal salts thereof; wherein the binder resin is selected from the group consisting of
- a.a vinyl chloride resin, a vinylidene chloride resin, a vinyl chloride-vinyl acetate resin, a ethylene-vinyl acetate resin, a polyolefin resin, a chlorinated olefin resin, or an ethylene-acrylic resin wherein the vinyl chloride resin, the vinyl chloride-vinyl acetate resin, the ethylene-vinyl acetate resin, the polyolefin resin, the chlorinated olefin resin, and the ethylene-acrylic resin contain maleic anhydride, fumaric acid or salts thereof;
- b.a petroleum-based resin, an epoxy resin, or a cellulose derivative resin, wherein the petroleum-based resin, the epoxy resin, and the cellulose derivative resin are modified with chloroacetic acid, bromoacetic acid, or sulfuric acid; or
- c. a polyurethane resin, an amide-modified polyurethane resin, a urea-modified polyurethane resin, an epoxy-modified polyurethane resin, a polyester resin, an amide-modified polyester resin, a urea-modified polyester resin, or an epoxy-modified polyester resin, wherein the polyurethane resin, the amide-modified polyurethane resin, the urea-modified polyurethane resin, the polyester resin, the amide-modified polyester resin, the urea-modified polyester resin, and the epoxy-modified polyester resin is obtained by condensation of a polyol and/or a polycarboxylic acid and 2,2-dimethylolpropionic acid, phthalic acid having a sulfonic acid group, diethanolaminoethylphosphoric acid, or salts thereof.
- 34. (new) The ink according to claim 33, wherein the content of the metal thin film fragments is from 10 to 60% by mass based on a non-volatile component in the ink.
- 35. (new) The ink according to claim 33, wherein the metal thin film fragments are obtained from a metal thin film which is obtained by at least one method selected from the group consisting of sputtering, malleation and aluminum vapor deposition.
- 36. (new) The ink according to claim 33, wherein the metal thin film fragments are fragments obtained from a thin film made of metal.
- 37. (new) The ink according to claim 33, wherein the metal thin film fragments are fragments obtained from a vapor-deposited metal thin film.
- 38. (New) The ink according to claim 33, wherein the metal thin film fragments have an average thickness of 0.01 to $0.08 \, \Box m$.
- 39. (New) The ink according to claim 33, wherein the content of the carboxyl group, the phosphoric acid group, sulfonic acid group, or metal salts thereof is 50 to 250 mmol/kg.

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- 40. (new) The ink according to claim 33, which contains no water.
- 41. (new) The ink according to claim 40, which contains an acid anhydride.
- 42. (new) The ink according to claim 41, wherein the ink contains 0.01 to 30% by mass of an acid anhydride moiety as a -C(=0)OC(=0)- group in the acid anhydride based on the metal thin film fragments.
- 43. (new) An ink comprising: metal thin film fragments having an average thickness of 0.01 to 0.1 □m and an average particle diameter of 5 to 25 □m; a binder resin having 50 to 500 mmol/kg of at least one selected from the group consisting of a carboxyl group, a phosphoric acid group, a sulfonic acid group and metal salts thereof; and 0.01 to 30% by mass, based on the metal thin film fragments, of an acid anhydride moiety as a -C(=O)OC(=O)- group in an acid anhydride, wherein the acid anhydride is an anhydride selected from the group consisting of anhydride of monobasic acid, an anhydride of dibasic acid, an anhydride of a tribasic acid, anhydride of tetrabasic acid, and substituted anhydrides thereof.
- 44. (new) The ink according to claim 43, wherein the metal thin film fragments are obtained from a thin film made of metal.
- 45. (new) The ink according to claim 43, wherein the metal thin film fragments are obtained from a vapor-deposited metal thin film.
- 46. (New) The ink according to claim 43, wherein the metal thin film fragments have an average thickness of 0.01 to 0.08 □m.
- 47. (New) The ink according to claim 43, wherein the content of the carboxyl group, the phosphoric acid group, sulfonic acid group, or metal salts thereof in the binder resin is 50 to 250 mmol/kg.
- 48 (withdrawn). A laminated sheet comprising: at least two synthetic resin films for molding, a decorative layer having a metallic luster at a laminate interface of the synthetic resin films and wherein the decorative layer is an ink film formed by the ink composition of claim 33.
- 49 (withdrawn). The laminated sheet according to claim 48, wherein one or more of the synthetic resin films provided on at least one side of the decorative layer are transparent or translucent.
- 50 (withdrawn). The laminated sheet according to claim 48, wherein the two or more synthetic resin films contain a thermoplastic resin.
- 51 (withdrawn). The laminated sheet according to claim 48, wherein the synthetic resin films contain a thermoplastic resin and a softening point of the binder resin of the decorative layer is lower than that of the thermoplastic resin.
- 52. (withdrawn). The laminated sheet according to claim 48, further comprising an adhesive layer at an interface between the at least two synthetic resin films and the decorative layer.
- 53. (withdrawn). The laminated sheet according to claim 48, wherein one or more of the synthetic resin films is transparent or translucent and wherein a change rate of a surface luster value of the transparent or translucent synthetic resin film is 20% or less at 200% malleation.
- 54 (withdrawn). The laminate sheet according to claim 48, wherein the ink contains no water.
- 55 (withdrawn). The laminate sheet according to claim 48, wherein the content of the metal thin film fragments is from 10 to 60% by mass based on a non-volatile component in the ink.
- 56 (new withdrawn). A laminated sheet comprising: at least two synthetic resin films for molding, a decorative layer having a metallic luster at a laminate interface of the synthetic resin films and wherein the decorative layer is an ink film formed by the ink composition of claim 43.

Permission was granted by Applicants' representative, Mr Armstrong to make the above changes by Examiner's Amendment on 10/6/2011.